CLAIMS

What is claimed is:

1. An extrusion system comprising:

a primary extruder;

a secondary extruder;

a primary flow director for directing melt from the primary extruder into two flow paths;

a secondary flow director for directing melt from the secondary extruder into two flow paths;

at least first and second co-extrusion assemblies, each for co-extruding melt from one of the flow paths from each of the primary and secondary flow directors with no substantial pressure change in the melt; and

dies receiving melt from respective co-extrusion assemblies.

2. A system as claimed in claim 1, wherein the melt from the primary extruder is of solid shape.

3. A system as claimed in claim 1, wherein the secondary flow director further comprises:

a top plate having channels in the face thereof;

a bottom plate having channels in the face thereof which, with the channels in the top plate, form two symmetrical flow paths; and

conduits in the bottom plate from the channels which feed the melt into the co-extrusion assemblies.

4. An extrusion system comprising:

a primary extruder;

a secondary extruder;

a primary flow director for directing melt from the primary extruder into two flow paths;

a secondary flow director for directing melt from the secondary extruder into two flow paths;

at least first and second co-extrusion assemblies, each for co-extruding melt from one of the flow paths from each of the primary and secondary flow directors with no substantial pressure change in the melt;

spider pipe heads receiving melt from respective co-extrusion assemblies; and

dies receiving melt from respective spider pipe heads.

5. A system as claimed in claim 4, wherein the melt from the primary extruder is of solid shape.

6. A system as claimed in claim 4, wherein the secondary flow director further comprises:

a top plate having channels in the face thereof;

a bottom plate having channels in the face thereof which, with the channels in the top plate, form two symmetrical flow paths; and

conduits in the bottom plate from the channels which feed the melt into the co-extrusion assemblies.

7. An extrusion system comprising:

a primary extruder;

a secondary extruder;

a primary flow director for directing solid melt from the primary extruder into two flow paths;

a secondary flow director for directing melt from the secondary extruder into two flow paths;

at least first and second co-extrusion assemblies, each for co-extruding melt from one of the flow paths from each of the primary and secondary flow directors with no substantial pressure change in the melt;

spider pipe heads receiving melt from respective co-extrusion assemblies which transforms the melt from solid to tubular shape.

8. A system as claimed in claim 7, further comprising adjustable dies for receiving melt from respective spider pipe heads.

9. A system as claimed in claim 7, wherein the secondary flow director further comprises:

a top plate having channels in the face thereof;

a bottom plate having channels in the face thereof which, with the channels in the top plate, form two symmetrical flow paths; and

conduits in the bottom plate from the channels which feed the melt into the co-extrusion assemblies.

10. A method for simultaneously coating a primary flowing melt with a secondary flowing melt comprising the steps of:

injecting the primary flowing melt from a primary extruder into a primary flow director;

injecting the secondary flowing melt from a secondary extruder into a secondary flow director;

dividing the primary flowing melt into two flow paths in the primary flow director;

dividing the secondary flowing melt into two flow paths in the secondary flow director;

coating the primary flowing melt with the secondary flowing melt in at least first and second co-extrusion assemblies with no substantial pressure change in the melts.

11. The method of claim 10, wherein the primary flowing melt is of solid shape.

12. The method of claim 10, wherein the step of coating the primary flowing melt with the secondary flowing melt coats the exterior of the primary flowing melt.

13. An extrusion system comprising:

means for directing a primary melt flow into two flow paths;

means for directing a secondary melt flow into two flow paths;

means for combining the primary and secondary melt flows into co-extruded melt flows in a region with no substantial pressure change in the melt; and

means for shaping the respective co-extruded melt flows.